

Hubble Detects the Start of a New Saturn Ring Spoke Season



New images of Saturn from NASA's Hubble Space Telescope herald the start of the planet's "spoke season" surrounding its equinox, when enigmatic features appear across its rings. The cause of the spokes, as well as their seasonal variability, has yet to be fully explained by planetary scientists.

The suspected culprit for the spokes is the planet's variable magnetic field, which interacts with the solar wind, creating an electrically charged environment. Small, dust-sized icy ring particles can become charged, which temporarily levitates them above the rest of the larger icy particles and boulders in the rings.

Hubble's Outer Planet Atmospheres Legacy (OPAL) program, led by Amy Simon from NASA Goddard, is building an archive of data on the outer solar system planets, including Saturn.

The OPAL program will add both visual and spectroscopic data to the archive of Cassini observations to provide a more complete picture of the spoke phenomenon and what it reveals about ring physics in general.



Recent Hubble Space Telescope observation of Saturn, as part of the Outer Planet Atmospheres Legacy (OPAL) program. This latest image heralds the start of Saturn's "spoke season" with the appearance of two smudgy spokes in the B ring, on the left in the image. SCIENCE: NASA, ESA, Amy Simon (NASA-GSFC) IMAGE PROCESSING: Alyssa Pagan (STScI)